STAFF ANALYSIS

TEMPORARY SPECIAL ACTION

WSA15-03/04/05/06

ISSUE

The North Slope Subsistence Regional Advisory Council (Council) submitted four temporary special action requests to change caribou hunting regulations in Units 23, 24, and 26.

Temporary Special Action WSA15-03, requests establishment of a new hunt area for caribou in Unit 23 where the harvest limit would be reduced from 15 caribou per day to 5 caribou per day, the harvest season be reduced for bulls and cows, and the take of calves would be prohibited (**Map 1**).

Temporary Special Action WSA15-04, requests establishment of a new hunt area for caribou in Unit 24 where the harvest seasons for bulls and cows would be shortened, and the take of calves would be prohibited (**Map 2**).

Temporary Special Action WSA15-05, requests that caribou harvest limit in Unit 26A be reduced from 10 caribou per day to 5 caribou per day, the harvest seasons for bulls and cows be shortened, and the take of calves and cows with calves be prohibited. Compared to the new State caribou regulations it requests 3 additional weeks to the bull harvest season from Dec. 6-31.

Temporary Special Action WSA15-06, requests establishment of a new hunt area for caribou in Unit 26B where the harvest limit would be reduced from 10 caribou per day to 5 caribou per day, the harvest season would be shortened, and the take of calves would be prohibited (**Map 3**).

DISCUSSION

The proponent states that changes to harvest regulations are required to reverse or slow the decline in the Western Arctic Caribou Herd (WACH) and the Teshekpuk Caribou Herd (TCH). Both populations have experienced declines of approximately 50% over the last decade. It is the intent of the Council to parallel changes made to State regulations when the Alaska Board of Game adopted modified State Proposal 202 (RC76) at their March 13-17, 2015 meeting. However, not all the changes requested are consistent with the newly adopted State regulations.

In Temporary Special Action Request WSA15-05, the proponent requested Oct. 16 to Dec. 31 for the closure of the bull season in Unit 26A to align with the State regulations. However, based on further discussion with the proponent it was determined that the intent of the Council was to allow for the hunting of bulls after Dec. 5th because they are considered edible by then. The season date change would give Federally qualified subsistence users an extra three weeks to harvest bull caribou in Unit 26A. .

The applicable Federal regulations are found in 50 CFR 100.19(b) (Temporary Special Actions) and state that:

"*…After adequate notice and public hearing, the Board may temporarily close or open public lands for the taking of fish and wildlife for subsistence uses, or modify the requirements for subsistence take, or close public lands for the taking of fish and wildlife for nonsubsistence uses, or restrict take for nonsubsistence uses."*

WSA15-03

Existing Federal Regulation

Unit 23 —Caribou

15 caribou per day; however, cow caribou may not be taken May 16 – June 30		*July 1–June 30*

Proposed Federal Regulation

Unit 23 – Caribou

Unit 23 – that portion north of a line from the mouth of the Singoalik River east to the boundary of the Noatak National Preserve, north to the Unit 26A boundary –	***5 caribou per day as follows:***	~~*July 1 – June 30*~~
	Up to 5 bulls per day; however, calves may not be taken	***July 1 – Oct. 14*** ***Feb. 1 – June 30***
	Up to 5 cows per day; however, calves may not be taken	***July 15 – Apr. 30***
Unit 23 ***remainder***	*15 caribou per day; however, cow caribou may not be taken May 16 – June 30*	*July 1 – June 30*

Existing State Regulation*

Unit 23—Caribou

Unit 23, that portion north of and including the Singoalik River drainage	*Resident Hunters: 5 caribou per day, as follows:*	
	Up to 5 bulls per day; however, calves may not be taken	*July1 – Oct. 14* *Feb. 1 – June 30*
	Up to 5 cows per day; however, calves may not be taken	*July 15 – Apr. 30*
	Nonresident hunters: 1 bull; however, calves may not be taken	*Aug. 1 – Sept.30*
Unit 23–remainder	*Resident Hunters: 5 caribou per day, as follows;*	
	Up to 5 bulls per day; however, calves may not be taken	*July 1 – Oct. 14* *Feb. 1 – June 30*
	Up to 5 cows per day; however, calves may not be taken	*Sept. 1 – Mar. 31*
	Nonresident Hunters: 1bull; however, calves may not be taken	*Aug. 1 – Sept. 30*

***Note**: The caribou season in Unit 23 was changed in State regulations by action of the Alaska Board of Game at their March 13–17, 2015 meeting. These changes will become effective July 1. 2015.*

WSA15-04

Existing Federal Regulation

Unit 24—Caribou

Unit 24 – that portion south of the south bank of the Kanuti River, upstream from and including that portion of the Kanuti–Kilolitna River drainage, bounded by the southeast bank of the	*Aug. 10 – Mar. 31*

Kodosin–Nolitna Creek, then downstream along the east bank of the Kanuti–Kilolitna River to its confluence with the Kanuti River – 1 caribou		
Unit 24, remainder– 5 caribou per day; however, cow caribou many not be taken May 16–June 30		*July 1– June 30*

Proposed Federal Regulation

Unit 24—Caribou

Unit 24 – that portion south of the south bank of the Kanuti river, upstream from and including that portion of the Kanuti–Kilolitna River drainage, bounded by the southeast bank of the Kodosin–Nolitna Creek, then downstream along the east bank of the Kanuti–Kilolitna River to its confluence with the Kanuti River – 1 caribou		*Aug. 10 – Mar. 31*
Unit 24 – that portion north of the south bank of the Kanuti River downstream from the Kanuti–Kilolitna River	***5 caribou per day as follows:***	
	Up to 5 bulls per day; however calves may not be taken	***July 1– Oct. 14*** ***Feb. 1– June 30***
	Up to 5 cows per day; however calves may not be taken	***July 15 – Apr. 30***
Unit 24 remainder– 5 caribou per day; however, cow caribou may not be taken		*July 1– June 30*

May16–June 30

Existing State Regulation*

Unit 24—Caribou

Unit 24A, south of the south bank of the Kanuti River	*Resident Hunters: 1 caribou*	*Aug. 10–Mar. 31*
	Nonresident Hunters: 1 caribou	*Aug. 10–Sept. 30*
Unit 24A remainder, that portion north of the south bank of the Kanuti River	*Resident Hunters: 5 caribou per day, as follows:*	
	Up to 5 bulls per day; however, calves may not be taken	*July 1 – Oct. 14* *Feb. 1 – June 30*
	Up to 5 cows per day; however, calves may not be taken	*July 15 – Apr. 30*
	Nonresident Hunters: 1 bull; however, calves may not be taken	*Aug. 1 – Sept.30*
Unit 24B, south of the south bank of the Kanuti River, upstream from and including that portion of the Kanuti–Kilolitna River drainage, bounded by the southeast bank of the Kodosin–Nolitna Creek, then downstream along the east bank of the Kanuti–Kilolitna River to its confluence with the Kanuti River	*Resident Hunters: 1 caribou*	*Aug. 10–Mar. 31*
	Nonresident Hunters: 1 caribou	*Aug.10–Sept. 30*
Unit 24B remainder, that	*Resident Hunters: 5 caribou per day, as follows:*	

portion north of the south bank of the Kanuti River downstream from the Kanuti–Killitna River drainage	*Up to 5 bulls per day; however, no calves may be taken*	*July 1 – Oct. 14* *Feb. 1 – June 30*
	Up to 5 cows per day; however, calves may not be taken	*July 15 – Apr. 30*
	Nonresident Hunters: 1bull; however, calves may not be taken	*Aug. 1 – Sept. 30*
Units 24C and 24D	*Resident Hunters: 5 caribou per day, as follows:*	
	Up to 5 bulls per day; however, calves may not be taken	*July 1–Oct. 14* *Feb. 1–June 30*
	Up to 5 cows per day; however, calves may not be taken	*Sept. 1–Mar. 31*
	Nonresident Hunters: 1 bull; however, calves may not be taken	*Aug. 1–Sept. 30*

***Note**: The caribou season in Unit 24 was changed in State regulations by action of the Alaska Board of Game at their March 13–17, 2015 meeting. These changes will become effective July 1, 2015.*

WSA15-05

Existing Federal Regulation

Unit 26A —Caribou

10 caribou per day; however, cow caribou may not be taken May 16 – June 30	*July 1–June 30*
You may not transport more than 5 caribou per regulatory year from Unit 26 except to the community of Anaktuvuk Pass.	

Proposed Federal Regulation

Unit 26A—Caribou

Up to 5 caribou per day; however no more than 3 cows per day; calves may not be taken~~10 caribou per day; however, cow caribou may not be taken May 16 – June 30~~	***~~July 1–June 30~~ Dec. 6– Mar. 15***
Up to 5 bulls per day; however cows may not be taken; calves may not be taken	***Mar. 16 – July 15***
Up to 5 caribou per day; however no more than 3 cows per day; cows accompanied by calves may not be taken	***July 16 – Oct. 15***
Up to 3 cows per day; however calves may not be taken; no bulls may be taken	***Oct. 16 – Dec. 5***

You may not transport more than 5 caribou per regulatory year from Unit 26 except to the community of Anaktuvuk Pass.

Existing State Regulation*

Unit 26A—Caribou

Unit 26A that portion of the Colville River drainage upstream from the Anaktuvuk River, and drainages of the Chukchi Sea south and west of, and including the Utukok	*Resident Hunters: 5 caribou per day, as follows:*	
	Up to 5 bulls per day; however, calves may not be taken	*July 1 – Oct. 14* *Feb. 1 – June 30*
	Up to 5 cows per day; however,	*July 15 – Apr. 30*

River drainage	*calves may not be taken*	
	Nonresident hunters: 1 bull; however, calves may not be taken	*Aug. 1 – Sept.30*
Unit 26A–remainder	*Resident Hunters: 5 bulls per day; however, calves may not be taken*	*July 1 – July 15*
	5 caribou per day; however, no more than 3 cows per day; cows accompanied by calves and calves may not be taken	*July 16 – Oct. 15*
	3 cows per day; however, calves may not be taken	*Oct. 16 – Dec. 31*
	5 caribou per day; however, no more than 3 cows per day; calves may not be taken	*Jan. 1 – Mar. 15*
	5 bulls per day; however, calves may not be taken	*Mar. 16. – June 30*
	Nonresident Hunters: 1bull; however, calves may not be taken	*Aug. 1 – Sept. 30*

***Note**: The caribou season in Unit 26A was changed in State regulations by action of the Alaska Board of Game at their March 13–17, 2015 meeting. These changes will become effective July 1, 2015.*

WSA15-06

Existing Federal Regulation

Unit 26B —Caribou

10 caribou per day; however, cow caribou may be taken only from Oct. 1 – Apr. 30	*July 1–June 30*
You may not transport more than 5 caribou per regulatory year from Unit 26 except to the community of Anaktuvuk Pass.	

Proposed Federal Regulation

Unit 26B—Caribou

Unit 26B - that portion south of 69º30' N. Lat. and west of the Dalton Highway	***5 caribou per day as follows:***	
	Up to 5 bulls per day; however calves may not be taken	***Dec. 10 – Oct. 14***
	Up to 5 cows per day; however calves may not be taken	***July 15 – Apr. 30***
Unit 26B remainder	*10 caribou per day; however, cow caribou may be taken only from Oct. 1 – Apr. 30*	*July 1 – June 30.*

You may not transport more than 5 caribou per regulatory year from Unit 26 except to the community of Anaktuvuk Pass.

Existing State Regulation*

Unit 26B—Caribou

Unit 26(B), that portion north of the 69º 30' N. lat. and west of the east bank of the Kuparuk River to a point at 70º 10' N. lat., 149º 04' W. long., then following the east bank of the Kalubik River to the Arctic Ocean	*Resident Hunters: 5 caribou per day; however, cow caribou may not be taken May 16–June 30*	*July 1–June 30*
	Nonresident Hunters: 5 caribou	*July 1–Apr. 30*
Unit 26(B), that portion south of 69º30' N.lat.and west of the Dalton Highway	*Resident Hunters: 5 caribou; however, cow caribou may be taken only from July 1–Oct. 10*	*July 1–Oct. 10 May 16–June 30*
	Nonresident Hunters: 5 caribou; however, cow caribou may be taken only from July 1–Oct. 10	*July 1–Oct. 10 May 16–June 30*
Unit 26(B), that portion south of 69º30'N. lat. and east of the Dalton Highway	*Resident Hunters: 5 caribou; however, cow caribou may be taken only from July 1–May 15*	*July 1– July 30*
	Nonresident Hunters: 5 caribou; however, cow caribou may be taken only from July 1–May 15	*July 1–June 30*
Remainder of Unit 26(B)	*Resident Hunters: 5 caribou*	*July 1–Apr. 30*
	Nonresident Hunters: 5 caribou	*July 1–Apr. 30*

***Note**: The caribou season in Unit 26B was changed in State regulations by action of the Alaska Board of Game at their March 13–17, 2015 meeting. These changes will become effective July 1, 2015.*

Extent of Federal Public Lands

Federal public lands comprise approximately 69% of Unit 23 and consist of 41.8% National Park Service (NPS) managed lands, 17.5% Bureau of Land Management (BLM) managed lands, and 9.6% U.S. Fish and Wildlife Service (FWS) managed lands (See **Unit 23 Map**).

Federal public lands comprise approximately 67% of Unit 24 and consist of 23 % BLM managed lands, 21.8% FWS managed lands and 21.9% NPS managed lands (See **Unit 24 Map**).

Federal public lands comprise approximately 65% of Unit 26 and consist of 45.2% BLM managed lands, 17.3% FWS managed lands, and 5% NPS managed lands (See **Unit 26 Map**).

Customary and Traditional Use Determinations

Residents of Unit 21D (west of the Koyukuk and Yukon rivers), Galena, Units 22, 23, 24 (including residents of Wiseman, but not other residents of the Dalton Highway Corridor Management Area) and 26A have a positive customary and traditional use determination for caribou in Unit 23.

Residents of Unit 24, Galena, Kobuk, Koyukuk, Stevens Village, and Tanana have a positive customary and traditional use determination for caribou in Unit 24.

Residents of Unit 26, Anaktuvuk Pass, and Point Hope have a positive customary and traditional use determination for caribou in Unit 26A.

Residents of Unit 26, Anaktuvuk Pass, Point Hope, and Unit 24 within the Dalton Highway Corridor Management Area have a positive customary and traditional use determination for caribou in Unit 26B.

Regulatory History

In 2013, an aerial photo census indicated significant declines in the TCH (Caribou Trails 2014), WACH (Dau 2011), and possibly the Central Arctic Caribou Herd (CACH) populations. In response, the Alaska Board of Game adopted modified Proposal 202 (RC76) in March 2015 to reduce harvest opportunities for both residents and non-residents within the range of the WACH and the TCH. These regulation changes, which included lower bag limits, changes to harvest seasons, modification to the hunt area descriptors, restrictions on bull and cow harvest and a prohibition on calf harvest, were adopted to slow or reverse the population decline. These regulatory changes take effect on July 1, 2015, and are the result of extensive discussion and compromise among a variety of user groups. State regulatory changes and the proposed changes to Federal regulations represent the first time in over 30 years that harvest restrictions have been implemented for the WACH and TCH. The restrictions proposed by these special actions for the WACH are also supported by management recommendations outlined in the Western Arctic Herd Management Plan (WACH Working Group 2011).

<u>Unit 23</u>

In 1995, the Federal Subsistence Board (Board) adopted Proposal P95-51 to increase the caribou harvest limit from 5 per day to 15 per day to increase opportunity for subsistence hunters to maximize their hunting when the caribou were available (OSM 1995a).

In 1997, the Board adopted Proposal P97-66 with modification to provide a positive customary and traditional use determination for caribou in Unit 23 for rural residents of Unit 21D west of the Koyukuk and Yukon rivers, Galena, Units 22, 23, 24 including residents of Wiseman, but not other residents of the Dalton Highway Corridor Management Area and Unit 26A (OSM 1995b, 1997).

In 2000, the Board adopted Proposal P00-053 with modification allowing the use of snowmachines to position and select individual caribou for harvest in Units 22 and 23. This was done to recognize a customary and traditional practice in the region (OSM 2000a).

Unit 24

In 2000, the Board adopted Proposal P00-44 to expand the hunting area north of the Kanuti River for caribou to allow Federally qualified subsistence users additional opportunities to harvest from the WACH (OSM 2000b). The harvest limit was set at 5 caribou per day with the restriction that cows may not be taken from May 16-June 30 (OSM 2000b).

The Board did not change the harvest limit of one caribou in the southern section of Unit 24B and 24A which was enacted to protect the Ray Mountain Caribou Herd, a small population of about 1,000 animals, on their wintering range (Jandt 1998).

Unit 26A and 26B

In 1995, the Board adopted Proposal P95-64 to increase the harvest limit from 5 caribou per day to 10 caribou per day to increase opportunity for subsistence hunters (OSM 1995c). This harvest limit has remained in effect since then. The Board also adopted Proposal P95-62 which closed the area east of the Killik River and south of the Colville River to non-Federally qualified subsistence users on Federal public lands (OSM 1995b). This closure was enacted to prevent non-Federally qualified subsistence users from harvesting lead animals, which may have caused the migration to move away from the area that local subsistence users hunted in Unit 26A (OSM 1995b).

In 2005, the Alaska Board of Game established a Controlled Use Area for the Anaktuvuk River drainage that prohibited the use of aircraft for caribou hunting from Aug. 15–Oct. 15. The intent of this proposal was to limit access by non-subsistence users, reduce user conflicts, and lessen the impact on caribou migration.

In 2006, the Board adopted Proposal WP06-65 which opened the area east of the Killik River and south of the Colville River to non-Federally qualified subsistence (OSM 2006). The closure was lifted for several reasons. First, due to changes in land status, lands formerly managed by BLM were transferred to Native corporations or the State of Alaska. Only the lands east of Anaktuvuk Pass were affected by the closure, making it less effective. Second, the population level was at a point where it could support both

subsistence and non–subsistence uses.

Current Events

Three public hearings were scheduled in Kotzebue, Barrow and Anaktuvuk Pass to provide members of the public an opportunity to comment on Temporary Special Action requests WSA15-03/04/05/06 to change the Federal subsistence caribou harvest regulations in Units 23,24, 26A, and 26 B for the 2015/2016 regulatory year. Participating communities at the public meetings included Wainwright, Point Lay, Point Hope, Atqasuk, Nuiqsut, Anaktuvuk Pass, Barrow, and Kotzebue. One individual provided testimony at the Kotzebue public hearing. Sixteen individuals provided testimony and many others listened at the public hearing in Barrow, while twenty three individuals provided testimony during a rescheduled teleconference call with Anaktuvuk Pass.

The importance of caribou to the cultural identity, subsistence way of life, and subsistence economies of many communities cannot be overstated. Local residents made it clear that they have always regulated themselves with regard to which animals to harvest and the right time of year to do so. Public testimony supported the requested reductions in the daily harvest limits and more restricted harvest seasons for bulls and cows. It is important to note that hunters are putting restrictions on themselves in support of these proposed conservation measures and are aware of the impact it will have on subsistence users and families.

Numerous comments were received on the need for extensive outreach, including Iuupiaq translations, to explain the changes to State and Federal caribou harvest regulations, some of which have been in place for 30 years. Concern was raised about the potential for Federally qualified subsistence users to get citations for not understanding the regulations with respect to differences between the Federal and State regulations, separate bag limits for bulls and cows, or mistakenly taking a cow with a calf. One person wanted mixed bag limits for Unit 23 to reduce the likelihood of getting cited for a violation. Other commenters expressed the need for a designated hunter provision to allow a hunter to take more than 5 caribou to provide for elders, extended family groups, or the community. The need for monitoring was identified as essential to determine if the restrictions on caribou harvest are working effectively. In addition, there was an expressed need for permit requirements under State regulations to more accurately monitor the harvest. Another concern raised several times was the importance of letting the lead animals pass through and there were several recommendations made to put restrictions on nonlocal hunters (numbers and/or season); restricting the use of aircraft, especially helicopters, for everyone including hunters and scientists for the next two years; and more education and outreach to all potential hunters. Several commenters requested that the sport hunt be closed on Federal public lands while the subsistence hunters are under restrictions for conservation measures.

Several people expressed concern about perceived unfair competition with sport hunters and the effect of sport hunting along the Dalton Highway with respect to the caribou migration, and harassment of animals by low–flying aircraft. Several who testified claimed that sport hunters only cared about trophy antlers and were leaving the meat in the field. Many felt that sport hunting was causing hardship for those in the villages by making it more difficult to locate caribou for harvest. Native hunters expressed the

importance of caribou to their culture and their physical well-being. There is concern among elders that the younger generation is not learning the important role caribou play in the subsistence way of life and that the lack of caribou near villages is precluding young people from learning important cultural roles and practices regarding caribou harvest and sharing.

Comments received during the tribal and ANCSA consultations were similar to those received during the public hearings.

Biological Background

The TCH, WACH, and CACH have ranges that overlap in Unit 26A (**Figure 1**) and there can be considerable mixing of herds during the fall and winter. During the early 2000s, the number of caribou wintering on the North Slope peaked at over 700,000 animals (this includes the Porcupine Caribou Herd in northeast Alaska and Northwest Territories, Canada), which may be the highest number since the 1970s. During the 1970s, there was little overlap between these four herds, but the degree of mixing seems to be increasing (Lenart 2011, Dau 2011, Parrett 2011).

Because the proposed regulatory changes for these special actions were put forward primarily due to the decline of the WACH and TCH, the focus of the biology will be on the WACH and TCH with a brief overview of the current population status of the CACH.

Central Caribou Herd

The current status of the CACH is unclear. The most recent population count, based on aerial photo census in 2013 was over 70,000 caribou, which was similar to the peak count in 2010 (Lenart 2011). However, the presence of 10 collared caribou from the Porcupine Caribou Herd (PCH) detected in the CACH could represent up to 20,000 caribou, which would indicate that the CACH may have declined by about 20% since 2010 (Cameron et al. 2005, Arthur and Del Vecchio 2009, Lenart 2011).

Teshekpuk Caribou Herd

The TCH calving and summering areas overlap with the eastern portion of the National Petroleum Reserve–Alaska (NPR–A). Most of the TCH moves toward Teshekpuk Lake in May to calve in early June. The primary calving grounds of the TCH (approximately 1.8 million acres) occur to the east, southeast and northeast of Teshekpuk Lake (Person et al. 2007, Wilson et al. 2012). From late June through July cows and bulls move to the Beaufort Sea coast from Dease Inlet to the mouth of Kogru River (Barrow to the Colville Delta), around the north and south side of the Teshekpuk Lake, and the sand dunes along the Ikpikpuk River to seek relief from insects (Carroll 2007, Parrett 2007). The narrow corridors of land to the east and northwest of the Teshekpuk Lake are important migratory corridors to insect relief areas as well (Yokel et al. 2009). River corridors are also used more during periods of insect harassment. Fall and winter movements are more variable, although most of the TCH winters on the

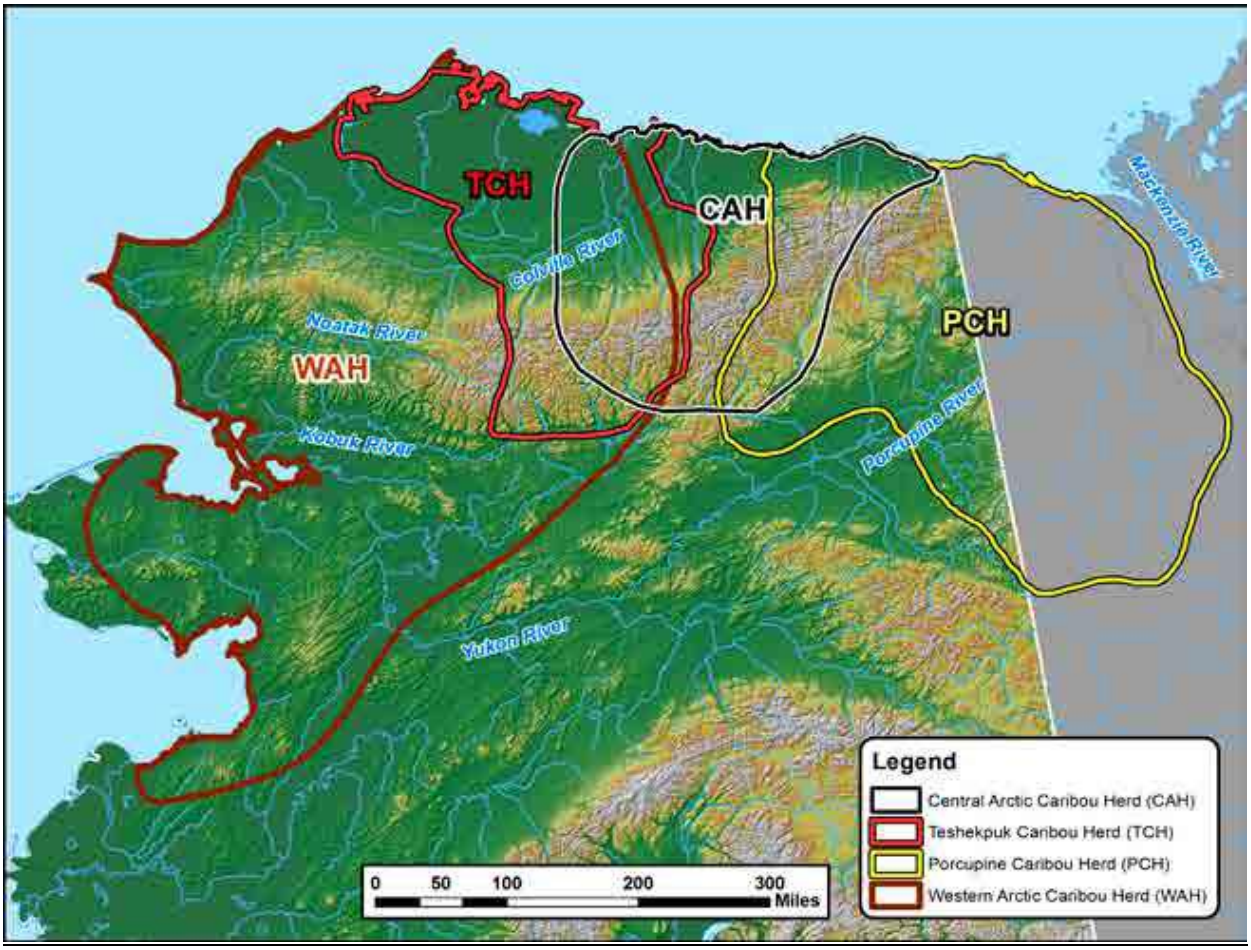

Figure 1. Herd overlap and ranges of the WACH, TCH, CACH and Porcupine caribou herds (WACH 2014).

coastal plain around Atqasuk, south of Teshekpuk Lake. However, the TCH has wintered as far south as the Seward Peninsula, as far east as the Arctic National Wildlife Refuge, and in the foothills and mountains of the Brooks Range (Carroll 2007). In 2008/2009, the TCH used many of these widely disparate areas in a single year (Parrett 2011).

The State has set management goals for the TCH to provide for subsistence and other hunting opportunities on a sustained yield basis, ensure that adequate habitat exists, and provide for viewing and other uses of caribou (Parrett 2011). Specific State management objectives for the TCH are as follows (Parrett 2011):

- Attempt to maintain a minimum population of 15,000 caribou, recognizing that caribou numbers naturally fluctuate.
- Maintain a harvest level of 900–2,800 caribou using strategies adapted to population levels and trends.

- Maintain a population composed of least 30 bulls per 100 cows.
- Monitor herd characteristics and population parameters (on an annual or regular basis).
- Develop a better understanding of the relationships and interactions among North Slope caribou herds.
- Encourage cooperative management of the herd and its habitat among State, Federal, and local entities and all users of the herd.
- Seek to minimize conflicts between resource development and the TCH.

Since 1984, the minimum population of the TCH has been estimated from aerial photo censuses and radio–telemetry data. Population estimates are determined by methods described by Rivest et al. (1998) which account for caribou in groups that do not have a collared animal and for missing collars. The TCH population increased from an estimated 18,292 (minimum estimate 11,822) in 1982 to 68,932 (minimum estimate 64,106) in 2008. From 2008 to 2014 the population declined by almost half to 39,000 (**Figure 2**) (Parrett 2015, pers. comm.). Interpretation of population estimates is difficult due to movements and range overlap among caribou herds which results in both temporary and permanent immigration (Person et al. 2007). For example, following the 2013 census ADF&G made the decision to manage the TCH based on the minimum count, because the bulk of the animals that were estimated rather than counted were with the WACH at the time of the photocensus (Parrett 2015, pers, comm).

Based on the fall composition counts in 2009 (Parrett 2011), which was considered a good year for herd separation, calf:cow ratios declined from an average of 62 calves:100 cows (range 39-80) for the seven surveyed years between 1991 and 2000, to 18 calves:100 cows (Parrett 2009). The number of bulls declined during the same time period from 62 bulls:100 cows (range 25-98 bulls:100 cows, Parrett 2009) to 46 bulls:100 cows (Parrett 2011). In addition, the number of short–yearlings:100 adults based on spring composition surveys, which is a measure of recruitment, declined from an average of 20 short yearlings:100 adults between 1999 and 2008 to 14 short–yearlings :100 cows in 2009. The annual mortality of adult radio collared females from the TCH has remained close to the long term (1991-2012) average of 14.5% (range 8–25%) (Parrett 2011, Caribou Trails 2014, Parrett 2015, pers. comm.). As the TCH has declined, calf weights declined indicating that poor nutrition may be having a significant effect on this herd (Carroll 2015, pers. comm., Parrett 2015, pers. comm.). In contrast, the body condition of individuals from the WACH, which also declined dramatically, has remained relatively good, and indicates caribou are still finding enough food within their range (Caribou Trails 2014, Dau 2014).

Western Arctic Caribou Herd

The WACH, the largest herd in Alaska, has a home range of approximately 157,000 mi^2 in northwestern Alaska (**Figure 1**). In the spring, most mature cows move north to calving grounds in the Utukok Hills, while bulls and immature cows lag behind and move toward summer range in the Wulik Peaks and Lisburne Hills. After the calving period, cows and calves move west toward the Lisburne Hills where they mix with the remaining bulls and non-maternal cows. During the summer the herd moves rapidly to the Brooks Range. In the fall they move south toward their wintering grounds in the northern portion of the Nulato Hills. The caribou rut occurs during fall migration (Dau 2011, WACH Working Group 2011).

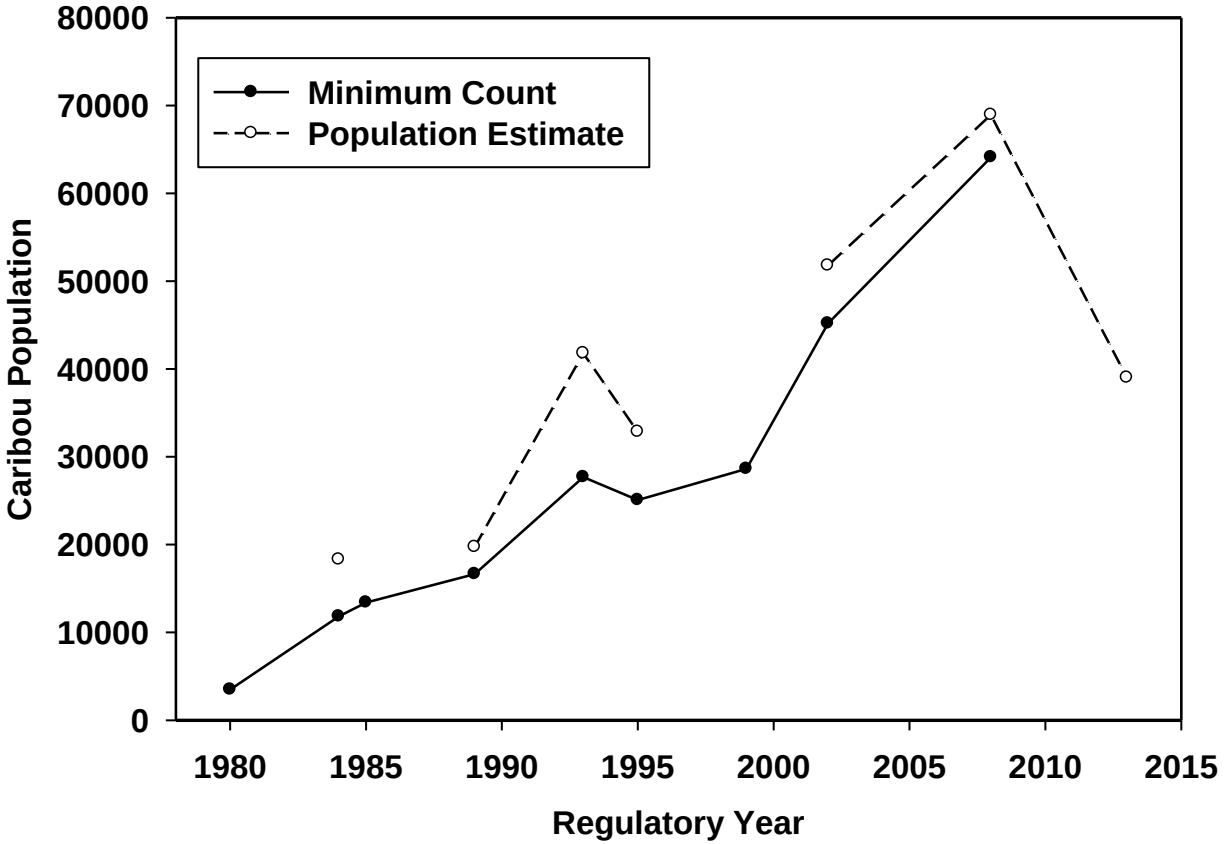

Figure 2. Minimum counts and population estimates of the Teshekpuk Caribou Herd from 1980-2013. Population estimates from 1984-2013 are based on aerial photographs of groups of caribou that contained radio–collared animals (Parrett 2011, Parrett 2015, pers. comm.).

The State manages the WACH to protect the population and its habitat, provide for subsistence and other hunting opportunities on a sustained yield basis, and provide for viewing and other uses of caribou (Dau 2011). Specific State management objectives for the WACH are listed in the 2011 Western Arctic Caribou Cooperative Management Plan (WACH Working Group 2011, Dau 2011) and include:

- Encourage cooperative management of the WACH and among State, Federal, local entities, and all users of the herd.
- Manage for healthy populations using management strategies adapted to fluctuating population levels and trends.
- Assess and protect important habitats.
- Promote consistent and effective State and Federal regulations for the conservation of the WACH.
- Seek to minimize conflict between reindeer herders and the WACH.
- Integrate scientific information, traditional ecological knowledge of Alaska Native users, and knowledge of all users into management of the herd.
- Increase understanding and appreciation of the WACH through the use of scientific information, traditional ecological knowledge of the Alaska Native users, and knowledge of all other users.

The WACH population declined rapidly in the early 1970s and bottomed out at about 75,000 animals in 1976. Aerial photo censuses have been used since 1986 to estimate population size. The WACH declined at an average annual rate of 7.1% from approximately 490,000 in 2003 to 235,000 in 2013 (Dau 2011, Caribou Trails 2014, Dau 2014) (**Figure 3**). Although factors contributing to the decline are not known with certainty, increased adult cow mortality, and decreased calf recruitment and survival played a role (Dau 2011). Other contributing factors include weather (particularly fall and winter icing events), predation, hunting pressure, decline in range condition (including habitat loss and fragmentation), climate change, and disease (Dau 2014). Joly et al. (2007) documented a decline in lichen cover in portions of the wintering areas of the WACH. Dau (2011, 2014) reported that degradation in range condition is not thought to be a primary factor in the decline of the WACH because animals in the WACH, unlike the TCH, have generally maintained good body condition since the decline began. However, the body condition of the WACH in the spring may be a better indicator of the effects of range condition versus the fall when the body condition of the WACH is routinely assessed and when caribou are in prime condition (Joly 2015, pers. comm). During periods of rapid population growth (1976–1982), fall calf:cow ratios were generally higher than periods of herd decline (1992–2013) (**Table 1**). However, it should be noted that calf:cow ratios may not accurately reflect the status in the population due to spatial and temporal segregation of cows and bulls, and because not all of the population is sampled. The number of bulls:100 cows was greater during the period of population growth (49:100 between 1976-2001) than during the recent period of decline (44:100 between 2004-2014).

The annual mortality rate of collared adult cows increased, from an average of 15% from 1987– 2003 to 25% from 2004–2009 (Dau 2011, 2014). Estimated mortality includes all causes of death including hunting (Dau 2011). Dau (2009) reported that rain–on–snow events and winter thaws may have

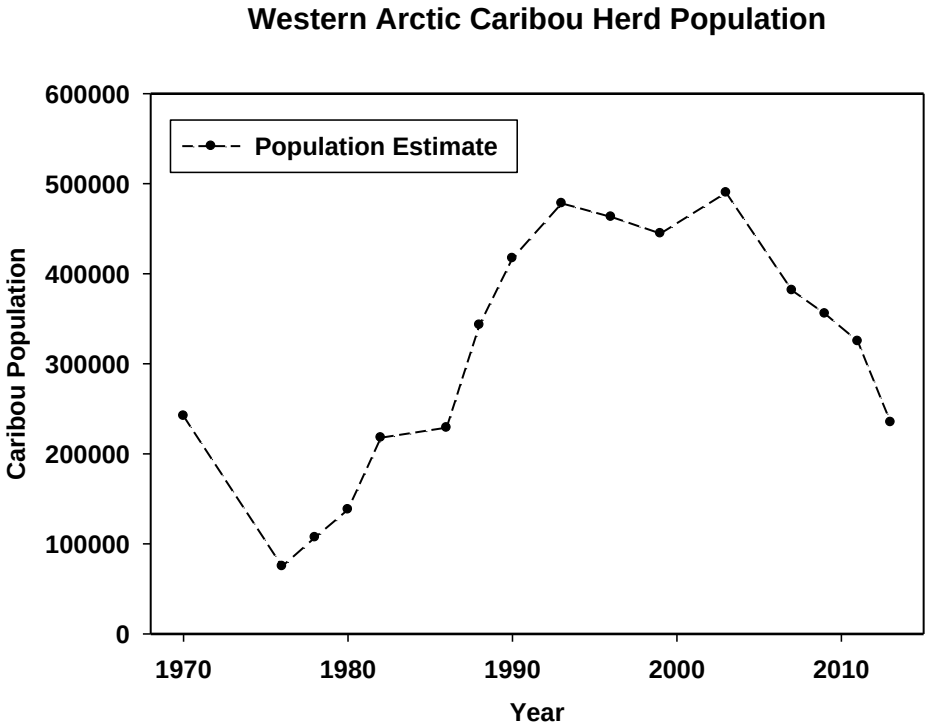

Figure 3. Maximum estimated population estimates of the Western Arctic Caribou Herd from 1970-2013. Population estimates from 1986-2013 are based on aerial photographs of groups of caribou that contained radio–collared animals (Dau 2011, 2014)

contributed to the relatively high estimated mortality rates of 23% during 2008-2009 and 27% during 2009-2010. Prior to 2004-2005, estimated adult cow mortality only exceeded 20% twice during regulatory years 1992 and 1999, but has exceeded 20% in 5 of the 6 regulatory years between 2004–2010 (2004, 2005, 2007, 2008, and 2009). As the WACH declined, the percentage of mortality due to hunting increased relative to natural mortality. For example, during the period October 1, 2013 to September 30, 2014, estimated hunting mortality was approximately 42% and estimated natural mortality about 56% (estimates from slide 16 Dau 2014). In previous years the estimated hunting mortality exceeded 30% only once.

Habitat

Caribou feed on a wide variety of plants including lichens, fungi, sedges, grasses, forbs, and twigs of woody plants. Arctic caribou depend primarily on lichens during the fall and winter but, during summer they feed on leaves, grasses and sedges (Miller 2003). The importance of high use areas for the TCH at Teshekpuk Lake during the summer has been well documented (Person et al. 2007, Carroll 2007, Parrett 2011,Wilson 2012, Smith, Witten, and Loya 2015). Presumably the importance of areas to the north, south, and east of Teshekpuk Lake during calving is due to the high concentration of sedge-grass meadows (Wilson et al. 2012). The areas around Teshekpuk Lake in the NPR–A are currently protected

Table 1. Western Arctic Caribou Herd fall composition 1976 – 2014 (Dau 2011, 2014).

Regulatory Year	Total bulls: 100 cows[a]	Calves: 100 cows	Calves: 100 adults	Bulls	Cows	Calves	Total
1976/1977	63	52	32	273	431	222	926
1980/1981	53	53	34	715	1,354	711	2,780
1982/1983	58	59	37	1,896	3,285	1,923	7,104
1992/1993	64	52	32	1,600	2,498	1,299	5,397
1995/1996	58	52	33	1,176	2,029	1,057	4,262
1996/1997	51	49	33	2,621	5,119	2,525	10,265
1997/1998	49	43	29	2,588	5,229	2,255	10,072
1998/1999	54	45	29	2,298	4,231	1,909	8,438
1999/2000	49	47	31	2,059	4,191	1,960	8,210
2001/2002	38	37	27	1,117	2,943	1,095	5,155
2004/2005	48	35	24	2,916	6,087	2,154	11,157
2006/2007	42	40	28	1,900	4,501	1,811	8,212
2008/2009	45	48	33	2,981	6,618	3,156	12,755
2010/2011	49	35	23	2,419	4,973	1,735	9,127
2011/2012							
2012/2013	42[b]						
2013/2014							
2014/2015	39						

[a] 40 bulls:100 cows is the minimum level recommended in the WACH Cooperative Management Plan (WACH Working Group 2011)

[b] Estimated from power point presentation presented at the WACH Working Group Meeting December 17-18, 2014 (Dau 2014)

from oil and gas leasing in recognition of the importance of these areas for caribou, waterfowl and shorebirds (BLM 1998, 2008).

Harvest History

From 1999–2014 the average annual harvest from the WACH was approximately 13,600 caribou (9500-15,800) (Units 21, 22, 23, 24, and 26A) (Dau 2009, Dau 2014, pers. comm.). Local residents take approximately 94% of the caribou harvest within the range of the WACH, with residents of Unit 23 taking the vast majority of the harvest (**Figure 4**). The State of Alaska manages the WACH to maximize a harvestable surplus of animals. In recent years, as the population declined, the State's total harvestable surplus for the WACH, which is estimated as 2% of the cows and 15% of the bulls, has declined (Dau 2011, Dau 2014, pers. comm.). Harvest from the WACH, which has remained fairly consistent since 1990, now represents a larger proportion of the annual mortality. This is one of the factors that prompted the Alaska Board of Game to enact restrictions to WAC and TCH caribou harvest in March 2015.The TCH supports a large subsistence harvest by Federally qualified subsistence users and a smaller harvest by non-locals and non-residents of 4,000–5000 caribou per year (**Table 2**) (Parrett 2011, Parrett 2015, pers. comm.). Reliance on caribou from a particular herd varies by community. Weather, distance of caribou from the community, terrain, and high fuel costs are some of the factors that can affect the availability and accessibility of caribou. Residents of Atqasuk, Barrow, Nuiqsut, and Wainwright harvest caribou primarily from the TCH while residents from Anaktuvuk Pass, Point Lay, and Point Hope harvest caribou primarily from the WACH (Dau 2011, Parrett 2011). Residents of Nuiqsut, which is on the northeast corner of Unit 26A, harvest approximately 13% of their caribou from the CACH (Lenart 2011).

Range overlap between the three caribou herds, frequent changes in the wintering distribution of the TCH and WACH, and annual variation in the community harvest survey effort and location make it difficult to determine the proportion of the TCH, WACH and CACH in the harvest. Knowledge of caribou distribution at the time of the reported harvest is often used to estimate the proportion of the harvest from each herd. Community harvest surveys continue to be the preferred method to estimate harvest by Federally qualified subsistence users, since previous attempts to conduct registration hunts were not effective (Georgette 1994). However, community surveys are not always reliable due to sampling issues (Braem et al. 2011, Parrett 2011). For communities where harvest surveys are not conducted or are unreliable, harvest estimates are often based on the current population estimate and previous estimates of the per capita harvest. A general overview of the relative utilization based on estimated harvest of each caribou herd for the communities from July 1, 2008 to June 30, 2010, is presented in **Table 2** (Parrett 2011, Dau 2011, and. Lenart 2011). The total estimated annual harvest from the TCH during 2010/2011 regulatory year (3387 caribou) (Parrett 2015, pers. comm.) was similar to the 2008/2009 regulatory year (**Table 2**).

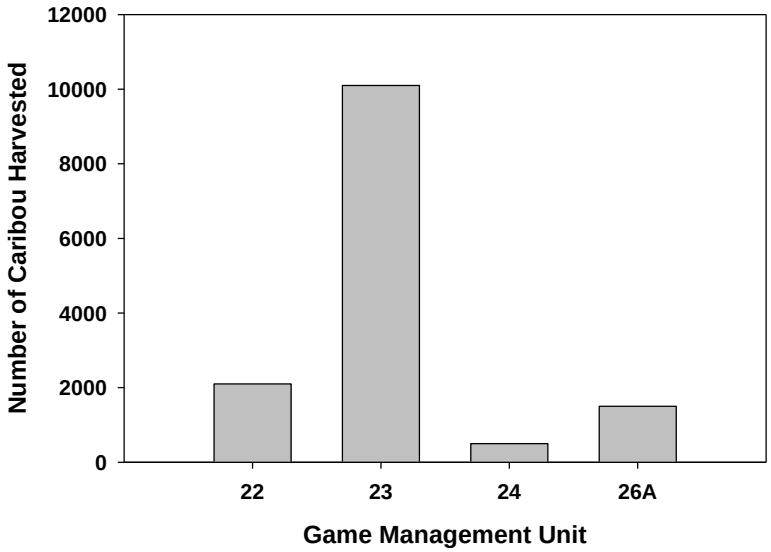

Figure 4. Average annual harvest by residents within the WACH range, RY1998-RY2012 (Dau 2014).

Table 2. Estimated caribou harvest of the Teshekpuk, Western Arctic and Central Arctic caribou herds during the 2008/2009 regulatory years by residents in Unit 26A by Federally qualified users (community population size based on 2007 estimates) (Parrett 2011, Dau 2011, Lenart 2011, Sutherland 2005). Note: Due to the mixing of the herds, annual variation in the community harvest surveys and missing data, the percentages for each community do not add up to 100%.

Community	Human population	Per capita caribou harvest[ab]	Approximate total community harvest	Estimated annual TCH harvest (%)	Estimated annual WACH harvest (%)	Estimated annual CACH harvest (%)
Anaktuvuk Pass	298	1.8	524	157 (30)	431 (82)	
Atqasuk	218	0.9	201	197 (98)	6 (2)	
Barrow	4127	0.5	2063	2002 (97)	62 (3)	
Nuiqsut	396	1.1	451	388 (86)	3 (1)	58 (13)
Point Lay	226	1.3	292	58 (20)	210 (40)	
Point Hope	689	0.3	220	0	220 (100)	
Wainwright	547	1.3	695	417 (60)	48 (15)	
Total Harvest				3219	980	58

[a] Citations associated with per-capita caribou harvest assessment by community can be found in Table 5 (Parrett 2011).
[b] Sutherland (2005)

Effects of the Special Action

If these Special Actions are approved, Federally qualified subsistence users would have decreased opportunity to harvest caribou on Federal public lands in Units 23, 24, 26A, and 26B. The caribou harvest limit in Unit 23 would be reduced from 15 per day to 5 per day and in Units 26A and 26B the harvest limit would be reduced from 10 per day to 5 per day. These reductions in the daily harvest limits and more restricted harvest seasons for bulls and cows could reduce potential harvest opportunities for Federally qualified subsistence users when caribou are available. The reduction on the take of calves is unlikely to have much effect on Federally qualified subsistence users since they rarely target calves. The prohibition on harvesting cows with calves could lead to Federally qualified subsistence users being cited for doing this by accident, despite their self-regulated (and general) practice of rarely harvesting cows with calves. Local preference is almost always for the "fattest" animals; and lactating cows with visible calves are very near the bottom of the list of preferred caribou to harvest. In cases where a hunter or a group of hunters have expended substantial fuel, time, and other resources without harvesting any meat, preference for a cow with a calve may increase a great deal if that is the only animal that presents itself. This prohibition was not part of the special action request submitted by the North Slope Subsistence Regional Advisory Council, but is an important conservation tool and one that is appropriate given the declining status of the WACH and TCH populations.

The North Slope Subsistence Regional Advisory Council submitted these changes to caribou harvest regulations in an effort to balance the need to slow or reverse the decline of the WACH and TCH populations with providing opportunities for Federally qualified subsistence users to harvest caribou. Approving these special actions would reduce the regulatory complexity for Federally qualified subsistence users as well.

The benefits of these proposed regulations for the conservation of the WACH and TCH vary. The reduction in the harvest of cows with calves as recommended in Unit 26A from July 16 to October 15 is likely to increase calf survival. The restriction on the take of calves is likely to have little conservation effect because subsistence users rarely target calves. Efforts to reduce harvest of bulls and cows should help reduce the overall caribou harvest for the declining TCH and WACH populations. Since cow mortality is one of the major contributing factors to the decline of WACH and TCH, any efforts to reduce the cow mortality are recommended. The restrictions proposed by these special actions for the WACH are also supported by management recommendations outlined in the Western Arctic Herd Management Plan (WACH Working Group 2011).

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